California Regional Water Quality Control Board
Santa Ana Region

August 13, 2004

ITEM: 19

SUBJECT: Bolsa Chica Lowlands Restoration Status Report

DISCUSSION:

In 1997, the State Lands Commission (SLC) began the process of acquiring 880 acres of land in the Bolsa Chica lowlands from CalResources LLC and Signal Bolsa Corporation (a subsidiary of Shell Oil Company) ( now Aera Energy LLC, and Hearthside Homes, respectively). The lowlands are being restored as offsite mitigation for environmental impacts that occurred when the Ports of Los Angeles and Long Beach underwent major expansions. Prior to this acquisition, these lowlands had been used for oil production for many years, and were contaminated by pollutants associated with oil field activities. The site remains part of a major oil field. This wetland ecosystem restoration, including site cleanup, is being directed by a steering committee that includes U.S. Fish and Wildlife Service (USFWS), SLC, California Resources Agency, Department of Fish and Game, California Coastal Conservancy, U.S Environmental Protection Agency (USEPA), the U.S. Army Corps of Engineers, Los Angeles District, and the National Marine Fisheries Service of NOAA. USFWS is the lead agency for the implementing the restoration project.

The acquisition of the Bolsa Chica lowlands necessitated a number of agreements among the agencies, the land owners, and the oil field operator assuring, among other things, continuing surface use of some site areas by the oil field operator, buyout and abandonment of oil production facilities, and cleanup of wastes resulting from prior uses. In December 1996, USEPA approached the Regional Board to become the lead regulatory agency for oversight of the cleanup component of the Bolsa Chica lowlands restoration. CalResources LLC had successfully negotiated an earlier, innovative cleanup with the Regional Board, and requested that USEPA approach the Board about becoming the "independent honest broker" for overseeing the cleanup of the lowlands. The Regional Board accepted this role in the project, provided two conditions were satisfied: Board staff costs would be paid for, and the cleanup would be consensual. These conditions were met, and an *Inter-Agency Agreement to Establish Roles and Responsibilities for Oversight of the Cleanup of Bolsa Chica Lowlands* was signed the week of February 10, 1997, formalizing the Regional Board's participation in the project as a party to the Cleanup Agreement. Regional Board Resolution No. 97-19 affirmed participation in the Cleanup Agreement as lead clean up oversight agency for the restoration phase of the project.

By entering into the agreement with the Regional Board, the project agencies and private parties accepted the Board as the final authority on cleanup of the site. USEPA

provided a grant to the Regional Board to fund one staff position, including supervisory and administrative support, for up to 3.75, years beginning September 1, 1997 through June 30, 2001, the expected duration of the Board's role under the agreement. (When the original grant term ended in 2001, more than half the grant was unexpended, and the project itself was years behind schedule. The grant has been amended, at no cost to USEPA, to allow the continuing use of grant funds through March 31, 2006. Staff projects that funding provided by the grant will be used up by the end of 2004 or early 2005, depending on the amount of staff time consumed by project-related responsibilities. Once the grant funds are expended, funding for further Board staff participation in this project is uncertain.)

Since 1997, Board staff has been participating in the Steering Committee's Bolsa Chica Technical Committee, working on issues concerning ecological risk assessments (ERA) of the site, confirmatory sampling, and site cleanup. The restoration project is now over four years behind schedule. In part, delays were caused by the length of time necessary to conduct ERAs of the wide range of contaminants at the site. The Cleanup Agreement called for the project agencies to conduct the ERA and confirmatory sampling, and for the private parties to propose a site cleanup work plan that is based on the findings of the ERA. As the project lead agency, USFWS completed the ERA (in January 2001) and conducted focused sampling to confirm results of previous site sampling projects, completed the Environmental Impact Report/ Environmental Impact Statement for the project, and obtained all necessary permits for the restoration.

The Steering Committee has completed project design plans for the first phase of the site restoration, which is the construction of a 366.5 acre tidally-influenced lagoon. SLC and Aera Energy have negotiated an agreement for the buyout of oil production resources in the footprint of the full tidal basin, and abandonment of oil wells and related facilities is already underway. Construction of this "full tidal" basin (in contrast to other basins proposed for the restoration area that will have a muted tidal influence) is scheduled to commence in October 2004.

To fulfill its role under the Cleanup Agreement, the Regional Board's primary responsibilities are to coordinate incorporation of the project agencies' comments into the final cleanup work plan, approve the cleanup work plan, including contaminant clean up levels, and then to monitor implementation of the approved plan. This has resulted in Board staff's active involvement with the Bolsa Chica Technical Committee in developing the ERA, designing the confirmatory sampling program, and establishing cleanup objectives. Board staff also reviewed and commented on the project EIR/EIS, and has assisted USFWS staff to obtain the necessary SWRCB general construction and RWQCB dewatering permits for the project.

After completing the ERA, USFWS and the project agencies developed and proposed cleanup levels, including specifying cleanup concentrations for contaminants that could affect water quality and beneficial uses. The Bolsa Chica Technical Committee, including Board staff, developed the cleanup criteria by considering field data, analysis

conducted through the *Ecological Risk Assessment*, and available literature. (This undertaking deviated from the Cleanup Agreement, which provides for cleanup concentrations to be proposed by the private, i.e., "responsible", parties as a component of the cleanup plan.) For this project, cleanup concentrations have been determined for 14 of the 47 chemicals of ecological concern identified and investigated through the ERA. The chemicals with cleanup concentrations are; arsenic, barium, beryllium, chromium, cobalt, copper, lead, mercury, nickel, oil and grease, total polychlorinated biphenyls, total petroleum hydrocarbons (diesel and waste oil range), vanadium, and zinc. The agencies and parties involved have agreed to the cleanup and haul-off concentration values.

In June 2004, USFWS submitted to the Regional Board and other project agencies a draft cleanup plan for the full tidal area. (As with the cleanup concentrations, the submittal of the cleanup plan is the responsibility of the private parties, not the project agencies.) Board staff reviewed the plan and orally requested changes. In July, a revised cleanup plan was received that included changes reflecting Board staff's comments. Board staff has drafted a letter conditionally approving the July 2004 clean up plan, and distributed the draft conditional approval letter to the private parties and project agencies for comments.

The cleanup plan for the full tidal basin area that is under consideration at this time is a component of the construction of the full tidal basin.[1] The cleanup plan identifies cleanup strategy, cleanup concentrations, contaminated sediments, contaminated material to be excavated, planned use of contaminated material on-site, and verification sampling. The methodology used in the development of cleanup concentrations is one element of the plan. The plan also identifies the location and volume of contaminated sediments and soil that will be excavated, removed and segregated.

The full tidal basin will be excavated and encircled with constructed levees. Excavated soils will be classified as clean material, excluded material, and contaminated material. The clean material will be used to construct an offshore ebb shoal, at the mouth of the tidal basin's inlet, and for common construction fill on-site. Excluded material is soil that is either unsuitable for use in the ebb shoal, or contaminated. Contaminated soils will be stockpiled separately from common construction soils, and depending on contaminant level, they will be sequestered on-site, by placing them within the core of the engineered fill levees that will be built around the full tidal basin, or hauled off-site for landfill disposal. The majority of the soil placed in levee cores will be excluded material, that is, soils that have low-level contamination, and soils from clearing and grubbing. These levees will be engineered fills designed and constructed to ensure that

[1] The lowlands restoration project has been divided into separate areas based on their post-restoration hydrologic function and habitat (e.g., full tidal basin, muted tidal basin, seasonal fresh water pond, future full tidal basin, etc.). Board staff expects the private parties, i.e., Aera Energy and Hearthside Homes, to submit cleanup plans for the remaining areas of the project site, as called for in the project agreements.

contaminants will remain isolated from the biological communities that will eventually inhabit the site. The sequestered soils will be placed beneath a minimum of one meter (3.28 feet) of compacted, uncontaminated soils. Sequestered soils, both contaminated and excluded, will also be placed in the cores of nesting islands that will be constructed within the full tidal lagoon.

SUMMARY and CONCLUSION:

The restoration of the Bolsa Chica lowlands is progressing, albeit slowly and cautiously. After extensive scientific investigations to determine appropriate clean up levels, excavation of the future full tidal lagoon is scheduled to begin in October 2004, about four years behind schedule. In 1997, the Regional Board accepted a formal role in a project Cleanup Agreement as the "honest, independent broker" of clean up levels for the project. Board staff has participated in many technical phases of the restoration project, and has recently reviewed USF&WS's clean up plan for the full tidal basin area, obtained revisions to it and drafted an approval of the revised plan. Staff's involvement in the Bolsa Chica restoration beyond early 2005 will be curtailed unless additional resources become available to support staff's work on this project.